

REMARKS

Reconsideration of this application, as amended, is respectfully requested. An RCE accompanies this Amendment.

In this response, claims 1 and 9 have been amended. Claims 10-11, and 17-23 have been canceled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Applicants reserve all rights with respect to the applicability of the Doctrine of Equivalents.

Claims 1-3 and 6-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,250,469 to Tanaka et al. ("Tanaka") in view of U.S. Patent No. 5,617,441 to Nakata et al. ("Nakata").

Claim 1 reads as follows:

A method for alternately contacting two wafer-like component composite arrangements, comprising: bringing the two component composite arrangements, each provided with contact metallizations on their opposing contact surfaces, into a coverage position with their contact metallizations to form contact pairs, in which a position the contact metallizations that are to be joined together are pressed against one another; exposing a rear of one of the two wafer-like component composite arrangements to a laser radiation, whereby the wavelength of the laser radiation is selected as a function of the degree of absorption of the component composite arrangement exposed to laser radiation at the rear, so that transmission of the laser radiation through the component composite arrangement exposed to the laser radiation at the rear is essentially suppressed or absorption of the laser radiation takes place essentially in the contact metallizations of one or both component composite arrangements, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like component composite arrangements such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting.

(Amended claim 1)(emphasis added)

Applicants submit that the limitations “exposing a rear of one of the two wafer-like component composite arrangements to a laser radiation, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like component composite arrangements,” as recited in amended claim 1, are supported by the original specification (for example, p. 9 lines 17-24, and page 13 line 20 to page 14, line 3, Figures 2 and 3).

The Examiner acknowledged that “Tanaka fails to teach wherein the laser treatment is performed by means of a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting.”(Office Action, p. 3).

Accordingly, Tanaka fails to disclose exposing a rear of one of the two wafer-like component composite arrangements to a laser radiation, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like component composite arrangements such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting, as recited in amended claim 1.

Nakata, in contrast, discloses a plurality of light emitting units. In particular, Nakata discloses the following:

ON/OFF of each of the laser diodes 1, which are pulse-driven, is independently repeated, respectively. Therefore, it is possible to change gradation by purposely changing the emission intense of the laser diode which is ON. Moreover, since the characteristics of the laser beams B have been aligned through the above-described adjustments, it is possible to use one optical system in common for the plurality of light emitting devices and to provide the light source unit a compatibility with respect to the

optical system. For example, the lens 13 (see FIG. 6) provided in the downstream side of the light source unit 10 can be used in common for five beams. As a result, the cost decreases and the position adjustments and maintenance are facilitated.

(Nakata, col. 8, lines 31-44)(emphasis added)

Thus, Nakata discloses independently repeating ON/OFF of each of the laser diodes. In contrast, amended claim 1 refers to selecting a number of the diode lasers that needs to be activated based on a position in relation to the one of the two-wafer-like component composite arrangements. Nakata fails disclose exposing a rear of one of the two wafer-like component composite arrangements to a laser radiation, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like component composite arrangements such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting, as recited in amended claim 1.

It is respectfully submitted that Tanaka fails to teach or suggest a combination with Nakata, and Nakata fails to teach or suggest a combination with Tanaka. Tanaka teaches mounting the IC. Nakata, in contrast, teaches a light source for printers. It would be impermissible hindsight, based on applicants' own disclosure, to combine Tanaka and Nakata.

Furthermore, even if the light source units of Nakata were combined with the IC mounting circuit substrate of Tanaka, such a combination would still lack exposing a rear of one of the two wafer-like component composite arrangements to a laser radiation, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like

component composite arrangements such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting, as recited in amended claim 1.

Therefore, applicants respectfully submit that claim 1 is not obvious under 35 U.S.C. §103(a) over Tanaka in view of Nakata.

Given that claims 2-3 and 6-8 depend from claim 1, and add additional limitations, applicants respectfully submit that claims 2-3 and 6-8 are not obvious under 35 U.S.C. §103(a) over Tanaka in view of Nakata.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka as modified by Nakata and further in view of U.S. Patent No. 6,762,072 to Lutz (“Lutz”).

Applicants reserve the right to swear behind Lutz to remove Lutz as prior art.

Lutz, in contrast, discloses bonding a MEMS sensor wafer to a cap wafer using a laser beam (Abstract). Lutz fails to disclose exposing a rear of one of the two wafer-like component composite arrangements to a laser radiation, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like component composite arrangements such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting, as recited in amended claim 1.

It is respectfully submitted that none of Lutz, Tanaka, and Nakata teach or suggest a combination with each other. It would be impermissible hindsight, based on applicants’ own disclosure, to combine Lutz, Tanaka and Nakata.

Furthermore, even if Lutz, Tanaka, and Nakata were combined, such a combination would still lack exposing a rear of one of the two wafer-like component composite arrangements

to a laser radiation, wherein the laser radiation performed by a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation, wherein a number of the diode lasers to be activated is selected based on a position in relation to the one of the two-wafer-like component composite arrangements such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting, as recited in amended claim 1.

Given that claim 5 depends from amended claim 1 and adds additional limitations, applicants respectfully submit claim 5 is not obvious under 35 U.S.C § 103(a) over Tanaka, in view of Nakata, and further in view of Lutz.

Claims 9-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka in view of Nakata and Lutz.

The Examiner acknowledged that “Tanaka fails to teach a diode laser composite arrangement.” (Office Action, p. 7).

As set forth above, Nakata, in contrast, discloses a light unit having a plurality of laser diodes for use in laser printers. In contrast, amended claim 9 refers to diode lasers of the diode laser linear arrangement that can be activated individually or in groups, wherein a number of the diode lasers of the diode laser linear arrangement which are needed to be activated for coverage of the respective transverse extent of the contact surface of the component composite arrangement is selected based on a distance to be traversed in relation to the first component composite arrangement.

As set forth above, Lutz discloses bonding surfaces using a laser beam (Abstract), and also fails to disclose diode lasers of the diode laser linear arrangement that can be activated individually or in groups, wherein a number of the diode lasers of the diode laser linear

arrangement which are needed to be activated for coverage of the respective transverse extent of the contact surface of the component composite arrangement is selected based on a distance to be traversed in relation to the first component composite arrangement, as recited in amended claim 9.

It is respectfully submitted that none of Lutz, Tanaka, and Nakata teach or suggest a combination with each other. It would be impermissible hindsight, based on applicants' own disclosure, to combine Lutz, Tanaka and Nakata.

Furthermore, even if Tanaka, Nakata, and Lutz were combined, such a combination would still lack diode lasers of the diode laser linear arrangement that can be activated individually or in groups, wherein a number of the diode lasers of the diode laser linear arrangement which are needed to be activated for coverage of the respective transverse extent of the contact surface of the component composite arrangement is selected based on a distance to be traversed in relation to the first component composite arrangement, as recited in claim 9.

Therefore, applicants respectfully submit that claim 9, as amended, is not obvious under 35 U.S.C § 103(a) over Tanaka, in view of Nakata, and further in view of Lutz.

Applicants have canceled claims 10 and 11.

Given that claims 12-15 depend from amended claim 9, and add additional limitations, applicants respectfully submit claims 12-15 are not obvious under 35 U.S.C § 103(a) over Tanaka, in view of Nakata, and further in view of Lutz.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka as modified by Nakata/Lutz and further in view of U.S. Patent No. 4,612,083 to Yasumoto et al. ("Yasumoto").

Yasumoto, in contrast, discloses fabricating a three-dimensional semiconductor device. Yasumoto fails to disclose diode lasers of the diode laser linear arrangement that can be activated individually or in groups, wherein a number of the diode lasers of the diode laser linear arrangement which are needed to be activated for coverage of the respective transverse extent of the contact surface of the component composite arrangement is selected based on a distance to be traversed in relation to the first component composite arrangement, as recited in claim 9.

It is respectfully submitted that none of Yasumoto, Lutz, Tanaka, and Nakata teach or suggest a combination with each other. It would be impermissible hindsight, based on applicants' own disclosure, to combine Yasumoto, Lutz, Tanaka and Nakata.

Furthermore, even if Yasumoto, Lutz, Tanaka, and Nakata were combined, such a combination would still lack diode lasers of the diode laser linear arrangement that can be activated individually or in groups, wherein a number of the diode lasers of the diode laser linear arrangement which are needed to be activated for coverage of the respective transverse extent of the contact surface of the component composite arrangement is selected based on a distance to be traversed in relation to the first component composite arrangement, as recited in claim 9.

Given that claim 16 depends from amended claim 9, and adds additional limitations, applicants respectfully submit claim 16 is not obvious under 35 U.S.C § 103(a) over Tanaka, in view of Nakata, in view of Lutz, and further in view of Yasumoto.

Claims 17, 18 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka in view of U.S. Publication No. 2003/0146384 to Logsdon et al. ("Logsdon"). Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka as modified by Logsdon and further in view of U.S. Publication No. 2003/0207073 to Takezawa et al. ("Takezawa"). Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over

Tanaka as modified by Logsdon and further in view of Lutz. Claims 21-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka as modified by Logsdon/Lutz and further in view of U.S. Patent No. 5,858,607 to Burberry et al. (“Burberry”).

Applicants reserve the right to swear behind Logsdon and Takezawa to remove Logsdon and Takezawa as prior art.

Applicants have canceled claims 17-23. Applicants reserve the right to prosecute the canceled claims 17-23 in a continuation application.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. Please charge any shortages and credit any overcharges to our Deposit Account No. 02-2666.

Respectfully submitted,
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